OFFICE OF TRANSPORTATION TECHNOLOGIES

	FY 1995
Office of Transportation Technologies - Grand Total	$24,851,000
Office of Transportation Materials	$12,646,000
Materials Preparation, Synthesis, Deposition, Growth or Forming	$ 5,282,000
Powder Characterization (WBS No. 1118)	110,000
Microwave Sintering (WBS No. 1124)	400,000
Cost-Effective Silicon Nitride Powder (WBS No. 1125)	0
Cost-Effective Sintering of Silicon Nitride Ceramics (WBS No. 1127)	121,000
Advanced Processing (WBS No. 1141)	0
Improved Processing (WBS No. 1142)	650,000
Processing of Silicon Based Ceramics (WBS No. 1225)	267,000
In Situ Toughened Silicon Nitride (WBS No. 1226)	353,000
In Situ Toughened Silicon Nitride (WBS No. 1231)	350,000
Low Thermal Expansion Ceramics (WBS No. 1243)	100,000
NZP Components (WBS No. 1245)	0
Low Cost Aluminum Titanate/NZP Ceramics (WBS No. 1246)	0
Advanced Manufacturing (WBS No. 1520)	397,000
Advanced Ceramic Manufacturing (WBS No. 1521)	991,000
Advanced Ceramic Manufacturing (WBS No. 1522)	1,543,000
Materials Properties, Behavior, Characterization or Testing	$ 3,873,000
Development of Standard Test Methods for Evaluating the Wear Performance of Ceramics (WBS No. 2222)	30,000
Advanced Statistics Calculations (WBS No. 2313)	0
Microstructural Analysis (WBS No. 3111)	50,000
Microstructural Characterization of Silicon Carbide and Silicon Nitride Ceramics for Advanced Heat Engines (WBS No. 3114)	200,000
Project Data Base (WBS No. 3117)	240,000
Fracture Behavior of Toughened Ceramics (WBS No. 3213)	290,000
Cyclic Fatigue of Toughened Ceramics (WBS No. 3214)	220,000
Tensile Stress Rupture Development (WBS No. 3215)	300,000
Life Prediction Verification (WBS No. 3216)	200,000
Toughened Ceramics Life Prediction (WBS No. 3217)	200,000
Life Prediction Methodology (WBS No. 3222)	0
Life Prediction Methodology (WBS No. 3223)	600,000
Environmental Effects in Toughened Ceramics (WBS No. 3314)	383,000
High Temperature Tensile Testing (WBS No. 3412)	500,000
Standard Tensile Test Development (WBS No. 3413)	125,000
Non-Destructive Evaluation (WBS No. 3511)	335,000
Computed Tomography (WBS No. 3515)	120,000
Nuclear Magnetic Resonance (NMR) Imaging (WBS No. 3516)	80,000
Technology Transfer and Management Coordination	$ 950,0000
Management and Coordination (WBS No. 111)	700,000
International Exchange Agreement (IEA) (WBS No. 4115)	0
Standard Reference Materials (WBS No. 4116)	150,000
Mechanical Property Standardization (WBS No. 4121)	100,000

OFFICE OF TRANSPORTATION TECHNOLOGIES (Continued)

	FY 1995
Office of Transportation Materials (continued)	
Device or Component Fabrication, Behavior or Testing	$2,541,0000
Advanced Coating Technology (WBS No. 1311)	175,000
Coatings to Reduce Contact Stress Damage of Ceramics (WBS No. 1313)	0
Wear Resistant Coatings (WBS No. 1331)	0
Wear Resistant Coatings (WBS No. 1332)	0
Thick Thermal Barrier Coating Systems for Low Heat Rejection Diesel Engines (WBS No. 1342)	0
Active Metal Brazing PSZ-Iron (WBS No. 1411)	220,000
Surface Durability of Machined Ceramics (WBS No. 1500)	200,000
Next-Generation Grinding Wheel (WBS No. 1501)	392,000
Grindability Test (WBS No. 1502)	0
Chemically Assisted Grinding of Ceramics (WBS No. 1503)	150,000
Grinding Consortium (WBS No. 1503)	150,000
High Speed Grinding (WBS No. 1504)	372,000
Laser-Based NDE Methods (WBS No. 1507)	180,000
Grinding Machine Stiffness (WBS No. 1510)	227,000
Next Generation Grinding Spindle (WBS No. 1511)	225,000
Process Cost Model (WBS No. 1512)	250,000
Office of Propulsion Systems	$12,205,000
Advanced Propulsion Division	$ 7,595,000
Materials Properties, Behavior, Characterization or Testing	$ 100,000
NASA Supporting Research and Technology	100,000
Device or Component Fabrication, Behavior or Testing	$ 7,495,000
Hybrid Vehicle Turbine Engine (HVTE) Technology Support	3,600,000
Ceramic Turbine (CT) Engine Demonstration Project	3,500,000
Advanced Diesel Engine Component Development Project	100,000
Advanced Piston and Cylinder Component Development	70,000
Advanced Piston and Cylinder Component Development	150,000
Microwave Regenerated Particulate Trap	75,000
Electric and Hybrid Propulsion Division	$ 4,610,000
Materials Preparation, Synthesis, Deposition, Growth or Forming	$ 1,025,000
Electrochemical Properties of Solid-State Sodium/Polymer Cells	275,000
Improved Container Electrode Coatings for Sodium/Sulfur Battery Systems	0
The Performance of New Materials for Polymer Electrolyte Batteries	140,000
Novel Polymer Electrolytes for Rechargeable Lithium Batteries	180,000
Novel Solid Polymer Electrolytes for Advanced Secondary Batteries	110,000
Sol-Gel Electrolytes in Lithium Batteries	0
New Cathode Materials	155,000
Development of High Energy Density Cathodes for Sodium/Polymer Cells	165,000

OFFICE OF TRANSPORTATION TECHNOLOGIES (Continued)

	FY 1995
Office of Propulsion Systems (continued)	
Electric and Hybrid Propulsion Division (continued)	
Materials Properties, Behavior, Characterization or Testing	$3,385,000
Surface Morphology of Metals in Electrodeposition/Carbon Electrochemistry	270,000
Fabrication & Testing of Carbon Electrodes as Lithium Intercalation Anodes	200,000
Battery Materials: Structure and Characterization	150,000
In Situ Spectroscopic Applications to the Study of Rechargeable Lithium Batteries	150,000
Polymer Electrolyte for Ambient Temperature Traction Batteries: Molecular Level Modeling for Conductivity Optimization	160,000
Analysis and Simulation of Electrochemical Systems	240,000
Heat Transport and Thermal Management in Advanced Batteries	175,000
Electrode Surface Layers	140,000
Electrode Kinetics and Electrocatalysis	400,000
Effect of Electrocatalyst and Electrolyte Composition on Methanol/Air Fuel Cell Performance	200,000
Poisoning of Fuel Cell Electrocatalyst Surfaces: NMR Spectroscopic Studies	200,000
Fuel Cells for Renewable Applications	1,000,000
Electrocatalysis of Fuel Cell Reactions	100,000
Device or Component Fabrication, Behavior or Testing	$200,000
Zn/NiOOH Cell Studies	0
Applied Research on Secondary Zn/NiOOH Battery Technology	0
Development of a Thin-Film Rechargeable Lithium Battery for Electric Vehicles	0
Na/SRPE Electric Vehicle Batteries	200,000
Lithium-Ion Battery Testing	0
Novel Concepts for an Oxygen Electrode in Secondary Metal-Air Batteries	0